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The Mine Centre Mining District, Ontario, and Adjacent Territory in the United States.

ALBERT B. REAGAN.

Recently the writer visited the Mine Centre district and was much impressed by what he found there. In the old days the country was so wooded that prospecting was a very difficult proposition, but now, that the fire of some years ago stripped the country of all vegetation, every ledge and vein is visible and the prospector will have no difficulty in finding good ore outcrops, if such are in the region, as facts demonstrated they are. The region is a gold country, as is well known. The ore seems to be found in ledges and veins of quartz protruding up through the Kewatin series. A small vein just west of the depot at Mine Centre, a vein not thicker than my hand, showed free gold, and almost any vein in that region, however thin, carries some gold.

This was a great mining center in the latter part of last century. But in that time it was terribly handicapped on account of the inaccessibility of the region. There was no railroad then and all supplies had to be hauled 100 miles through an almost trackless wilderness in winter. In addition, those who opened the mines expected to find high-grade ores in quantity. The Canadian Northern Railroad having been built through the region and the improved methods by which low-grade ores can be handled at a profit now make mining in the district profitable. Mining under experienced and economical management will pay in this district.

Even with the railroad running through the region, the mines are yet much handicapped, as roads are not built to the mines, or if built need to be much improved. The Foley mine is putting in a telephone line to Mine Centre and to offset its poor road the management contemplates putting in a large gasoline boat to ply on Rainy Lake between the mine and Fort Frances, Ont. Furthermore, if the road is not made passable by the government from Mine Centre, the company will have its coal hauled by barge from Ranier to the stamp mill for fuel instead of hauling it out from Mine Centre.

There has been an awakening in a political way recently for the benefit of this mining country. The head geologist of Canada is speaking for the region. Captain H. A. C. Machin declared recently on the floor of the provincial parliament that this part of Ontario rejoiced in mineral wealth. Politically, industrially and financially, a new regime promises justice and the mining of the region will take on new and vigorous life. Below are some of the mines of the region. Golden Crescent, Lucky Coon, Ferguson, Old Golden Star, Calm Lake Mines, Steep Rock, Elizabeth, Olive and Foley. The last five will receive more notice:

Calm Lake.—The mines in this vicinity are owned by the Calm Lake Gold Mining Company. This company has a shaft down 85 feet. At a depth of 75 feet this shaft cuts a system of veins. At this point a crosscut of 50 feet has been made to intersect the veins and make them workable. A vein known as "No. 2" was also cut through and was found to be 50 feet wide. It showed some free gold but not an entirely free

quartz. A vein dubbed "No. 3" is also expected to be cut through soon. At the surface it is wide and shows up well. Camps were recently built on the ground owned by this company. A steam hoisting plant is also in operation and everything is in good shape for extensive exploration and developing.

The Olive Mine.—A company is preparing to reopen this mine and had considerable preliminary work done when the writer visited the region. But no actual work on the mine had been done. It is one of the old and paying mines of the old times and will need considerable overhauling.

Steep Rock.—A company composed of Thomas Rawn and associates are doing diamond drilling work on iron properties here and report has it that some very good results have been obtained. Gold prospecting is also going on in the vicinity.

Elizabeth.—This is one of the old mines and was a payer. It was owned by Alan Sullivan. Considerable work was done on it, a ten-stamp mill was installed and good camp buildings erected. The mine is on Harold Lake. Mr. Sullivan had a fine log house built there for himself, had a fine fireplace built in it, had his floors covered with oriental rugs and had his walls decorated with the paintings of the old masters. But the mine failed and a Canadian bank took it to satisfy loans that had been advanced on the property. But with the coming of new life to the region, a Mr. A. McKinnon bought the mine of the bank and has been developing it. He had fifteen men employed when I visited it, and stated that he had secured some very fine ore.

The Foley.—This set of mines are located on Shoal Lake, under the management of the Foley Gold Mines Company, ltd. This company intends putting in a large garden this year to offset the cost of supplying its camp. It also expects to clear more ground near it for future use in the same line. Vegetables do well in that section and fresh vegetables will help make the table more palatable. New quarters and more commodious ones are to be erected for the accommodation of the employees. The mine is one of the old mines and has a stamp mill and other heavy machinery at hand. Also, ores to the northward from the Lucky Joe, another shaft of this group, are found to be very heavy in iron sulphides. When last stamped it is reported that the iron sulphate concentrates assayed \$7.73 per ton. The free milling quartz ores from the vein also ran \$20 per ton per ore handled. A shaft will also be sunk on the galena vein. Ore from this vein taken in a pit 17 feet beneath the surface assayed \$30 per ton in gold, \$3.58 in silver and 5 per cent in lead, but the veins in each case were thin.

At the south shaft, owned by the Foley Mining Company, much dead work has been done. The shaft has been sunk 200 feet. From this, then, a cross-cut has been driven eastward 325 feet. This cross-cut has cut four veins from five to eight feet in width and a fifth very rich vein 17 inches in width.

MINING OPERATIONS IN THE NORTHERN PART OF ST. LOUIS AND KOOCHICHING COUNTIES, MINNESOTA, ACROSS RAINY LAKE FROM MINE CENTER, ONTARIO.

The region covered by the above title is what might be termed a wholly unexplored region, so far as mining is concerned. Its country

rocks are granites, porphries, and Laurentian and Huronian rocks and volcanics and over these are superimposed glacial drift from a few inches to several hundred feet in depth. In addition, the region is often swampy, is trailless and a variable jungle. Notwithstanding this, some mining work is in prospect.

Near Gheen, on Patrick Calahan's homestead, there is a brown stained quartz ledge running in a northeast-southwest direction. It is 400 feet in width and shows 3,000,000 tons of quartz in sight. An assay of occasional small seams in this rock gives \$10, \$20.60, \$80, and even \$120 per ton. Some drilling has been done in the region, and good findings have been reported.

A quartz ledge similar to the above is also exposed on Finlander Hill, north of Gheen, showing gold.

IRON ORE NEAR RAY, MINN., AND FORT FRANCES, ONT.

Iron ore has been discovered in large bodies both at Ray, Minn., and at Fort Frances, Ont. A wide belt of the iron formation extends in a north and south direction and is mostly continuous on both sides of the International Boundary line. Companies have been formed both at Ray and at Fort Frances and drilling and prospecting has been done. The ore strip is found about three miles west of Ray and to the north of Fort Frances, though it is believed that the formation is continuous. The drill showings are good.

PLACER MINING NEAR KINMOUNT, MINN.

West of Kinmount in both St. Louis and Koochiching counties, Minnesota, there is a sandy ridge of glacial origin. The sand ranges from a few inches to sixty feet in depth. Below this sand is a granite-porphry ledge. Both the ledge and the sand carry gold. Repeated assays show that small seams in the granite-porphry ledge carry \$10.80 or more per ton, and that the sand carries good values in gold.

The gold in the sand has most likely been leached out of the country rock beneath it and likely, also, been carried, for the most part, from some ledge in Canada, say Mine Centre or the Lake of the Woods region, and deposited there with the sand by some glacial eschar-streams. Both of the regions above contain gold-bearing rocks.

Gold in this region was discovered in 1910. A party headed by a Mr. E. P. Moorehead, were drilling for iron ore in the region and each time the drill was drawn up it was noticed that the earthy matter was glittering with bright particles. A sample was sent to Doctor Drew of Minneapolis and he reported that the sample contained gold at a ratio of \$9.20 per ton. A spring also contained sand that assayed high in gold.

As a result of the finding of gold here, the Durheim Mining Company was formed with Mr. E. P. Moorehead as president. This company purchased 601 acres of placer land in township 60 of range 22 in St. Louis county, Minnesota, and 120 acres in township 66 of range 22 in Koochiching county covering the gold district mentioned. Since getting hold of the land they have been active in more than a prospecting way.